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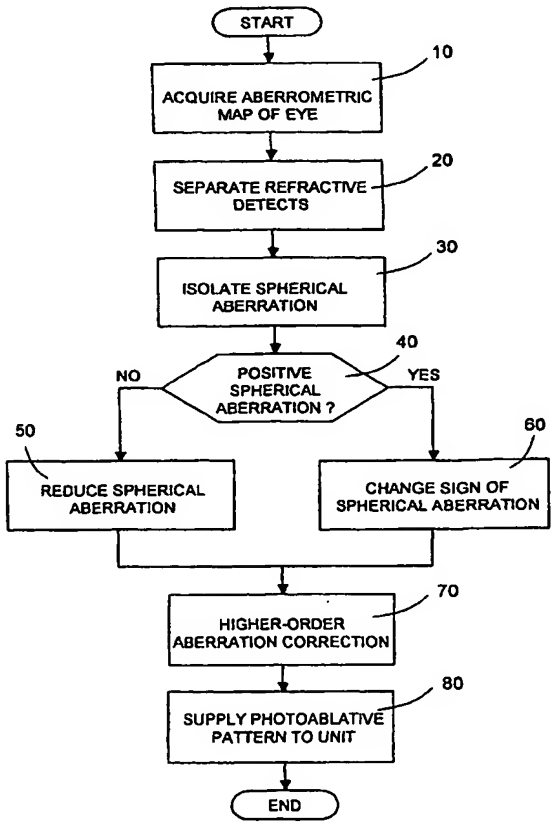
(54) Title: EXCIMER LASER UNIT AND RELATIVE CONTROL METHOD FOR PERFORMING CORNEA ABLATION TO REDUCE PRESBYOPIA



(57) Abstract: There are described an excimer laser unit (1) and a method of controlling the unit to perform cornea ablation to reduce presbyopia, wherein the excimer laser unit (1) is controlled to form on the cornea a photoablative pattern inducing a fourth-other ocular aberration, in particular a positive spherical aberration. More specifically, an aberrometric map of the eye is first acquired indicating the visual defects of the eye, which include second-order visual defects such as hypermetropia, astigmatism, and myopia, and higher-order visual defects such as spherical aberration; if the detected spherical aberration is negative, it is reduced by numerically increasing its absolute value to obtain an overcorrect photoablative inducing positive spherical aberration; conversely, if the detected spherical aberration is positive, its sign is changed and its absolute value increased numerically to obtain an overcorrect photoablative pattern inducing positive spherical aberration; and the photoablative pattern so generated is supplied to the excimer laser unit (1) for implementation on the cornea.

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